

KEY FACTS

- All but one state (Massachusetts) has explicit state-determined standards- or course-based graduation requirements or guidelines.
- Twenty-eight states and the District of Columbia offer only one diploma with no endorsement options. The remaining 22 states offer students more than one diploma or endorsement option.
- Twenty-four states currently or will soon require students to complete “college- and career-ready” graduation requirements, as defined by academic requirements and/or alignment to postsecondary admissions requirements.
- Another 16 states offer optional college- and career-ready diplomas or endorsements into which students can opt.²
- Finally, 11 states offer an optional CTE or career-focused diploma or endorsement into which students can opt.³

Endorsements, Electives & More: CTE & State Graduation Requirements

INTRODUCTION

In the past few years, there has been a persistent and consistent focus on Career Technical Education (CTE) at the state level. In just 2014, 46 states collectively passed more than 150 CTE-related laws impacting secondary and postsecondary programs and institutions.

One area of particular focus has been high school graduation requirements. In 2013 and 2014 alone, 23 different states made adjustments to their high school graduation requirements with some direct impact on CTE course taking or credentials.¹

Nearly every state already embeds CTE courses as optional electives in their graduation requirements, but many states have gone a step further by requiring specific or focused electives aligned with students’ post-high school plans. A number of states are also exploring how to allow more flexibility in how industry credentials can meet assessment-based requirements. And finally, a group of states have created CTE-focused endorsements, which can take multiple forms themselves.

Regardless of the approach a state takes, what is most important is ensuring access to high-quality CTE programs of study that prepare students for college and careers. Building in flexibility and incentives for more students to engage in CTE is the right step, but not at the expense of leaving all opportunities open for students before they graduate high school. The challenge is maintaining that careful balance between offering multiple pathways aligned to students’ interests and post-high school plans and creating separate and unequal tracks.

This brief explores common approaches to offering or requiring CTE courses and assessments within a statewide set of graduation requirements, offers illustrative examples of state-level policies and elevates implementation issues for consideration.

CTE ENDORSEMENTS & DIPLOMAS

Eleven states offer separate diplomas or endorsements on existing diplomas that either serve to recognize successful completion of CTE programs and earning of credentials and/or to incentivize more CTE participation. This is a particularly visible way of marrying CTE programs and diplomas, although states have approached it in a few ways.



Approach: Endorsements on College- and Career-Ready Graduation Requirements or Diplomas

Four states – **North Carolina, Indiana, Colorado** and **Louisiana** – offer CTE or technical endorsements on top of their college- and career-ready graduation requirements or a course of study that is aligned with admissions requirements to postsecondary institutions, typically agreed upon by state higher education agencies or systems.

State Examples

In **North Carolina**, students can earn the *Career Endorsement*, one of two *College Endorsements* and/or the *Academic Scholars Endorsement*. All four endorsements require students to complete the Future-Ready Core requirements in math and earn at least a 2.6 grade point average (GPA), which guarantees graduates' placement into credit-bearing courses at the state's community colleges.

Students earning a Career Endorsement must complete a CTE concentration, earn an industry-recognized credential or reach the Silver designation on the National Career Readiness Certificate (WorkKeys), and take a fourth year of math aligned to their post-high school plans. Under this approach, students earning this endorsement are able to enter the state's two-year institutions without requiring remedial education and with a credential in hand.

Indiana has taken a similar approach. To earn the *Core 40 with Technical Honors* diploma, students must complete all requirements for Core 40, a college- and career-ready set of graduation requirements, complete a state-approved CTE program (eight or more semesters of related credit), and complete two of the following:

- Achieve certain scores on WorkKeys;
- Complete dual high school/college credit in a technical area;
- Complete a Professional Career Internship course or Cooperative Education course;
- Complete an industry-based work experience as part of a two-year CTE program; and/or
- Earn a state-approved, industry-recognized certification.

When the Indiana General Assembly made the Core 40 requirements the default for all high school students in 2007, they also made it a minimum college admissions requirement for the state's public four-year universities. While the percentage of students taking advantage of this endorsement is relatively low – about three percent of the 2013 graduating class – over half of those earning the endorsement also earned an Academic Honors endorsement. And, the outcomes associated with earning either the Technical or Academic Honors endorsement include higher postsecondary enrollment and lower remediation rates.⁴

COURSE EQUIVALENCY & COMPETENCY-BASED EDUCATION

Two issues not discussed in this brief with direct relevance to graduation requirements are course equivalency and competency-based education.

Many states have or are pursuing policies to allow CTE courses to count towards general education/academic credit and vice versa, such as an Agriculture class counting towards a science credit or a program of study in computer science towards a mathematics credit. This is a promising trend, allowing for more flexibility in students' schedules and course taking, and facilitating more integration and collaboration between CTE and general education/academic instructors.

Similarly, competency-based education provides flexibility in the way in which credit can be earned or awarded through a model that focuses on proficiency of content rather than seat time. A competency-based model allows students to progress at their own speed, based on their demonstration of mastery of knowledge and skills. The promise of this model is that it should allow students to demonstrate learning where it happens, including the demonstration of academic knowledge and skills within a CTE classroom or experience. About a quarter of states are pursuing full competency-based approaches to K-12 education, with states like **New Hampshire, Maine** and **Vermont** leading the way. Maine and Vermont, in particular, are looking to build CTE and the notion of pathways into their new competency-based systems.



Issues for Consideration

The *benefits* of this approach are that students are getting the best of both worlds – they are completing a rigorous CTE program of study and often earning an industry-recognized credential while also completing a curriculum of high academic rigor. This is truly meeting college **and** career readiness expectations. Students with such an endorsement are well positioned to enter any postsecondary option, from four-year programs to short-term technical training.

The *challenge* of such an approach is ensuring the schedule allows for students to complete the full course load. This is particularly challenging in states that rely on shared-time area technical centers to deliver CTE courses, which may or may not be allowed to also award students credit for general education/academic courses.

Approach: Endorsements on Standard Graduation Requirements or Diplomas

Six states – **Florida, Hawaii, Mississippi, Texas** and **Wisconsin** (plus, **Louisiana** again) – offer a CTE endorsement but on a “standard” diploma that is not necessarily aligned with the state’s postsecondary admissions requirements. Below, we describe some of these states’ approaches.

State Examples

In 2013, **Texas** overhauled its graduation requirements, moving from a system where all students were automatically enrolled in the college- and career-ready *Recommended High School Program* to a system where students build on the new minimum requirements, the *Foundation High School Program*. Specifically, students can pursue CTE-focused endorsements in STEM, Business



and Industry, Public Services, Arts and Humanities, or Multidisciplinary Studies. To earn an endorsement, students must complete a fourth year of math and science (or advanced CTE courses that meet the math or science requirements), two additional elective credits and some concentration of CTE courses.

Students can also graduate with a “distinguished level of achievement” by completing the Foundation High School Program requirements plus a fourth year of math through Algebra II, a fourth credit of science and an endorsement. Importantly, only students who graduate at the “distinguished” level are able to take advantage of the automatic state college admissions under the top 10 percent rule.⁵

Finally, students may earn performance acknowledgements by completing specific requirements, such as earning postsecondary credit or a nationally- or internationally-recognized business or industry certification.

In **Florida**, students can choose a career pathway that allows them to be waived from Algebra II, Chemistry and Physics courses, as well as the end-of-course assessments in those subjects, and take more CTE courses or other work-based learning experiences in their place. Students who complete the new minimum requirements and earn one or more industry certifications will receive a “merit” designation on their diploma; students completing the current graduation requirements, which are at the college- and career-ready level, earn a “scholar” designation.

Hawaii offers a three honors recognitions – academic, STEM and CTE. To earn a *CTE Honors Recognition*, a student must meet all of the requirements of the standard diploma; complete and earn at least a “B” in a state-approved program of study; pass the program of study’s performance-based assessment; and earn an industry-recognized credential, a passing score on a Dual Credit Articulated Program of Study assessment, or a passing score on an end-of-course assessment. For comparison, students earning the *STEM Honors Recognition* must complete a fourth year of math beyond Algebra II, a fourth year of science and a STEM capstone/senior project.

Issues for Consideration

The *benefit* of such an approach is that it expands access to CTE pathways and coursework. There is no question that this approach, like the other endorsements, places a stronger and more visible value on CTE. In the case of Hawaii, the endorsement honors and recognizes the work of CTE students who are excelling in their program areas. And, in Texas, Florida and Louisiana, these new policies are also sparking innovation and creativity in the design of new CTE courses and pathways, as well as encouraging ways in which CTE courses can be used to meet general education/academic courses.

Louisiana offers two ways for students to earn endorsements for CTE participation and completion. The first approach is the new *Jumpstart Diploma*, which was approved in 2014 to replace the current career diploma option. Students can earn a Jumpstart Diploma by completing seven credits in a career area of concentration, in addition to basic general education/academic courses. The innovation in the Jumpstart Diploma is that new career and course pathways are being designed by regional teams of K-12 and postsecondary educators, employers, and economic and workforce development leaders, and approved by a statewide cross-agency commission. While employers and other partners regularly help inform CTE pathways in other states, Louisiana's approach takes it a step further by engaging such a broad group of regional partners with approval from multiple state agencies.

Louisiana also offers a *Career/Technical Endorsement* on top of its college- and career-ready LA Core 4 diploma option (which is in the process of being replaced by the TOPS University Diploma). To earn this endorsement, students must:

- Graduate with a 2.5 GPA;
- Earn an 20 on ACT or Silver on WorkKeys/National Career Readiness Certificate;
- Earn an industry-based certification or complete three college hours in a CTE area; and
- Complete a senior project related to the area of concentration with 20 hours of work-based learning or complete 90 hours of work-based learning.

Both the Jumpstart Diploma and CTE endorsement are being incentivized through the state's accountability framework.



The *challenge* is that such an approach requires safeguards to ensure all newly-created courses and pathways are of equal rigor. Both Florida and Texas require their state boards of education to identify or approve substitute courses and pathways, but this work is still very much in progress, with Texas set to approve the first half of the new courses in April 2015. Unless states have a clear and consistent process in place to verify the quality and rigor of replacement courses and pathways, these endorsements could unintentionally promote or even incentivize lower-level pathways, potentially limiting post-high school choices.

Approach: Flexible CTE Endorsement

Finally, a third type of endorsement is one that can be flexibly applied to multiple diplomas. States such as **Nevada** and **New York** offer such CTE endorsements, which can be added onto an advanced or standard high school diploma.

State Examples

Nevada's *State Certificate of Skill Attainment* is available for any CTE program completer who earns a GPA of 3.0 or higher in the state-approved CTE program of study (generally, three credits); passes the state end-of-program technical assessment; and passes the state assessment for employability skills. Given that about half of Nevada's CTE completers already earn the state's Advanced Diploma, it is very likely that many students will graduate with the Advanced Diploma and State Certificate of Skill Attainment moving forward.



The State Board of Education and State Board of Regents recently approved a policy that allows any student who earns the State Certificate of Skill Attainment to be awarded articulated credit. Articulation agreements will be established for each CTE program designating the number of articulated credits each state college will award to students earning the Certificate in specific career areas.

New York and Virginia take even more straightforward approaches. In **New York**, CTE students who take the full set of courses required by the state for graduation, pass all required Regents exams (except a foreign language) and a three-part technical skills assessment, and complete a work-based learning experience and a work-skills employability profile can have a “technical endorsement” seal on their diploma. The **Virginia** Department of Education actually issues endorsements for CTE students that are determined and awarded by districts.⁶

Issues for Consideration

As described above, the *benefits* of such an approach is that it rewards CTE students meeting a certain threshold, and should help expand access to CTE programs of study. In Nevada, having the certificate in place also facilitated a strong partnership with the state’s postsecondary institutions and the development of statewide articulation agreements by offering a common, rigorous reference point.

One potential cross-cutting *challenge* that could affect all of the endorsement approaches is whether states are valuing CTE *courses* or CTE *programs of study* – and whether those courses or programs of study are state-developed or approved. States like North Carolina, Hawaii and Nevada explicitly tie their endorsements to completion of a state-approved program of study or concentration of CTE courses with the intent of ensuring students take a deliberate sequence of CTE courses that provides them with both the broader Career Cluster®-level knowledge and the more occupationally-specific skills that lead to a credential and degree.

This is likely the intent in all of the endorsements and diplomas identified above, but some policies are less precise with their language. For example, Florida requires the Department of Education to develop “career education courses or a series of courses” rather than an explicit program of study or pathway, and Texas requires “some concentration of CTE courses” for its endorsements. This further makes the case for a clearly defined role and process at the state level for approving the rigor and quality of such courses to ensure they make up a coherent and comprehensive program of study.



EMBEDDED CTE PATHWAYS

Nearly every state requires students to complete a set of “directed” electives, such as a certain number of required arts, foreign language and/or CTE courses, as well as “open” electives, which students can fill with any courses of their choice. However, some states have taken this “directed” approach one step further by specifying how those directed electives should be structured based on students’ interest and career plans. And one state, **Virginia**, has gone further still, requiring all students earning a standard diploma to earn an industry-recognized credential.

Approach: Electives Aligned with Students’ Post-High School Plans

A number of states, such as **Arkansas, Delaware, Kentucky** and **West Virginia**, require a certain number of electives, which are directed to be “career focused” or “aligned with students’ post-high school plans.” Students may choose to meet these electives with CTE, academic or other elective courses. It is fairly common for these electives to be mentioned in conjunction with individual career/academic plans or the equivalent within the graduation requirement policy.

West Virginia recently updated its graduation requirements, moving away from two separate tracks into one rigorous course of study for all students. The new policy explicitly requires that “each student’s personalized education plan will identify coursework for the four (4) credits that will lead directly to placement in entry-level, credit-bearing academic college courses, an industry-recognized certificate or license, or workforce training programs. Best practices encourage students to take at least 1 AP® and/or Advanced Career course with corresponding examination, a fourth Science credit, and 2 credits in one World Language, and/or four credits cumulating in acquisition of industry and recognized CTE credential focused on career aspirations.”



Issues for Consideration

The *benefit* of such an approach is that it accounts for time in a student's schedule to complete a full pathway. It also puts a strong focus on students building individual plans and thinking about their post-high school plans early and often.

The potential *challenge*, however, is that this approach can force students to choose between CTE and other electives such as foreign language or arts, putting them in direct competition with each other, which is unfair to students. Increasingly, there is demand from employers for career-ready graduates who can speak multiple languages, for example, and arts and CTE have long and unnecessarily been forced to fight over resources and attention. This can be addressed in the way in which the requirements are framed as well as any guidance offered for other "open" electives included in the graduation requirements.

CTE CREDENTIALS & EXIT EXAMS

Many states require students to pass assessments as well as specific courses in order to graduate. Such assessments are called "exit exams," and some states are creating ways for CTE assessments, typically industry-recognized credentials, to meet certain exit exam requirements.

State Examples

In January 2015, **New York's** Board of Regents approved multiple high school graduation pathways, including in CTE and STEM. This new policy allows students to replace one of the five required Regents exams with a comparably rigorous technical, arts or other assessment, as defined and approved by the state. Students pursuing the CTE pathway will also need to complete a CTE program. The change will take effect beginning with the graduating class of 2015. Students also have the option of substituting their science Regents exam with an approved CTE assessment.

As passed in 2014 to first impact the class of 2018, all students in **Ohio**, in addition to completing a full course of study and taking four end-of-course assessments, are required to meet one of these requirements to graduate:

- Earn a cumulative passing score on seven end-of-course exams in English, mathematics, social studies and science; or
- Earn a "remediation-free" score on a nationally recognized college admission exam such as ACT or SAT; or
- Earn a State Board of Education-approved, industry-recognized credential or a state-issued license for practice in a career and achieve a score that demonstrates workforce readiness and employability on a job skills assessment.

Under this approach, Ohio is focusing not on creating flexibility, per se, but rather honoring qualified industry-recognized credentials as an indicator of students' readiness for their next step after high school.

Virginia has long had the policy to allow certain industry-recognized credentials to count towards student-selected verified credits – what Virginia refers to as required end-of-course assessments – to meet graduation requirements.

Issues for Consideration

The *benefit* of such an approach is clear – it offers more flexibility for CTE students, particularly those who may struggle with summative assessments, and further incentivizes the earning of industry-recognized credentials. When done right, this approach also provides a good balance between the “college-ready” and “career-ready” assessments, offering students the opportunity to excel on both.

The biggest *challenge*, however, is creating a rigorous process for reviewing and approving industry-recognized credentials to ensure have the requisite value to students and employers, as well as rigor to qualify them as a substitute for an academic assessment. Fortunately, with states like New York and others exploring this, models and criteria are emerging from which other states can learn.

CONCLUSION

This brief highlighted a few prominent ways in which states are exploring embedding and elevating CTE programs, assessments and experiences within their statewide graduation requirements. With such a variety of approaches and policies, there is much that can be learned from both those states with long-standing policies and those still in the process of implementing the new strategies.

Throughout the brief, a number of challenges and issues for consideration were raised, notably having processes in place for ensuring equality of rigor and quality across pathways and assessments; providing flexibility to allow students to engage in CTE programs of study without having to give up other areas of interests, such as the arts, foreign languages or other academic courses; and ensuring students have the opportunity to take the full range of courses that will prepare them for college and careers.

Another overarching challenge is that very few states report the percentage of students earning various endorsements, making it difficult to evaluate their impact on students in high school and beyond. In fact, only Nevada and Virginia publicly report how many CTE concentrators are earning the states' advanced diplomas. As more states develop and approve courses, pathways and assessments to substitute for existing requirements, it will become even more important that states collect and report out the various ways in which students are earning their diplomas and endorsements to understand which options have the greatest value to students throughout and after high school and which are less successful.

There's no question there has been significant movement in the past few years to leverage graduation requirements to incentivize CTE programs of study and industry-recognized credentials. Yet, there is still much work to be done to ensure these requirements are implemented consistently and carefully, and provide multiple pathways so that all students can graduate with the academic, technical and employability skills they need for success in life after high school.

STATE LINKS & RESOURCES

Arkansas Smart Core
Colorado Postsecondary/Work Readiness Endorsement
Delaware Graduation Requirements
Florida Graduation Requirements/Designations
Georgia Graduation Requirements
Hawaii Graduation Requirements/Endorsements
Indiana Graduation Requirements/Endorsements
Kentucky High School Diploma
Louisiana Diplomas
Louisiana Diploma Endorsements
Nevada Certificate of Skills Attainment Articulation Policy
New York Technical Endorsement
New York Multiple Pathways Policy
North Carolina Graduation Requirements Policy
Ohio Graduation Requirements
Texas Graduation Requirements/Endorsements
Virginia Certification Requirements/Policy
West Virginia Graduation Requirements
Wisconsin Graduation Requirements

ENDNOTES

- ¹ NASDCTEc & ACTE (2015). State Policies Impacting CTE: 2014 Year in Review. http://careertech.org/sites/default/files/2014_State_Policy_Review_FINAL.pdf
- ² Achieve graduation requirements research, 2014. www.achievetech.org/graduation-requirements
- ³ Colorado, Florida, Indiana, Hawaii, Louisiana, Mississippi, Nevada, New York, North Carolina, Texas and Wisconsin. Virginia provides a process for districts to award CTE endorsements.
- ⁴ Data were provided by the Indiana Department of Education and Indiana Commission for Higher Education. http://www.in.gov/che/files/StateofIndiana_IN.pdf
- ⁵ The top 10 percent rule is a provision that allows all Texas high school students who finish in the top 10 percent of their graduating class to be guaranteed admission at any public university in the state.
- ⁶ It is possible that other states also offer this option, but that research question was beyond the scope of this brief.